AF/RW

Docket No.: 1293.1948

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Young-sig KWON

Serial No. 10/674,477 Group Art Unit: 2187

Confirmation No. 4673

Filed: October 1, 2003 Examiner: Than Vinh NGUYEN

For: RECORDING METHOD AND RECORDING APPARATUS USING SAME

CORRECTED/AMENDED APPEAL BRIEF UNDER 37 CFR §41.37

Mail Stop: Appeal Brief-Patents

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

This is in response to the Notification of Non-Compliant Appeal Brief mailed September 16, 2009 indicating that the Appeal Brief filed August 17, 2009 failed to meet the requirements of 37 CFR § 41.37.

This Corrected/Amended Brief in Support of Appeal overcomes/replies to/ all of the requirements set forth in the Notice and therefore entry is requested. Only the section found defective (Section III- Status Of Claims) and this page have been changed.

If any further fees are required in connection with this filing, please charge our Deposit Account No. 19-3935.

I. REAL PARTY IN INTEREST

The real party in interest is Samsung Electronics Co., Ltd., the assignee of the subject application.

II. RELATED APPEALS AND INTERFERENCES

Appellant, Appellant's legal representatives, and the assignee are not aware of any prior or pending appeals or interferences which directly affect or are directly affected by, or have a bearing, on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1, 2, 5-9, 12-16 and 18-22 are pending and under consideration, with claims 1, 8 and 18-20 being independent claims. Claims 18-20 are allowed. Claims 3, 4, 10, 11, and 17 are cancelled.

Claims 1, 2, 5-9, 12-16, 21 and 22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Publication No. 2003/0156338 A1 by Kudo et al.

The rejection of claims 1, 2, 5-9, 12-15 and 16 is being appealed.

IV. STATUS OF AMENDMENTS

A Non-Final Rejection was mailed August 15, 2008. An Amendment After Non-final Action was filed November 17, 2008. A Final Office Action was mailed on February 9, 2009. Appellant filed an Amendment under 37 C.F.R. § 1.116 on April 6, 2009 amending claims 1 and 8 and cancelling claims 21 and 22. An Advisory Action mailed April 13, 2009 indicated the claim amendments would not be entered. A Request for Pre-Appeal Conference, a Notice of Appeal and a Request for an Extension of Time were filed on May 11, 2009. A Notice of Panel Decision from Pre-Appeal Brief Review was mailed on June 19, 2009, in which claims 1, 2, 5-9, 12-16, 21 and 22 were rejected and claims 18-20 were indicated as allowed.

Accordingly, the claims and specification are presented here as in the Amendment filed November 17, 2008.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The independent claims being appealed are 1 and 8.

The dependent claims being appealed are 2, 5, 6, 7, 9, 12, 13, 14, 15 and 16.

A. Independent claim 1 (claim text in italics, claim support is non-italicized)

1. (PREVIOUSLY PRESENTED) A method of recording record signals sequentially transmitted from a host on an optical recording medium, the method comprising:...

Support: See, by way of example and not limitation, the present application at FIG. 2 including HOST, RECORD DATA input to Buffer 200, and paragraphs [0010] and [0030].

Paragraph [0010] states, in part:

> **[0010]** According to an aspect of the present invention, there is provided a method of recording record signals sequentially transmitted from a host on an optical recording medium.

Paragraph [0030] states, in full:

> **[0030]** A host processes a record command in operation 300. The host receives the record command from an application program and determines whether to record host data on the optical disk 208 or not. If predetermined data is being recorded on the optical disk 208, the controller 207 notifies the host of an error.

...receiving record data sequentially transmitted from the host and storing the received record data in a buffer if a predetermined environment for a data recording apparatus on the optical recording medium to record the received data is set;...

Support: See, by way of example and not limitation, FIG. 3, item 303, and paragraphs [0031] and [0033] of the present application. Paragraph [0031] states, in full:

> **[0031]** Thereafter, in operation 301, the controller 207 forms an appropriate recording power for an optical recording apparatus and sets an appropriate recording speed of the optical recording apparatus. The controller 207 determines whether the optical disk 208 is a CD-R or a CD-RW, and sets a recording speed and a recording speed of the optical recording apparatus depending on the type of the optical disk 208.

Paragraph [0033] states, in full:

> **[0033]** Thereafter, in operation 303, the controller 207 controls

> and manages the data received from the host so that the received data can be stored in the buffer 200. The controller 207 controls the data received from the host so that only as much data as the storage capacity of the buffer 200 is received while checking the storage capacity of the buffer 200. Thus, the controller manages the buffer. The controller 207 increases a pointer value of the buffer 200 one by one whenever data is received from the host and determines whether to convert a current mode of the buffer 200 into a recording mode or not based on the pointer value of the buffer 200. If the buffer 200 does not have any space to store the data received from the host (i.e., the point value exceeds a threshold), the controller 207 converts the current mode of the buffer 200 into a recording mode.

... building table of contents information using the record data to be recorded in a lead-in region of the optical recording medium among the record data stored in the buffer,...

Support: See, by way of example and not limitation, FIG. 3, item 305, and paragraphs [0007], [0010], and [0035] of the present application. Paragraph [0007] states, in full:

> **[0007]** The present invention provides a method of reducing recording time by building TOC information on data transmitted from a host and then recording data on an optical recording medium in a raw mode.

Paragraph [0010] states, in part:

> **[0010]** According to an aspect of the present invention, there is provided a method of recording record signals sequentially transmitted from a host on an optical recording medium. The method includes receiving record data sequentially transmitted from the host and storing the received record data in a buffer if an environment for a data recording apparatus on the optical recording medium to record the received data is set, building information on the optical recording medium using the record data to be recorded in a lead-in region of the optical recording medium among the record data stored in the buffer.

Paragraph [0035] states, in full:

> **[0035]** When the sector processor starts operating, TOC information is built using SubQ or Subcode values among the host data in operation 305. In the case of recording data on the optical disk 208 in a raw mode, lead-in information can be extracted from the host using two different methods.

...wherein the building table of contents information includes;

for a first block type of the record data, identifying a number of blocks if a 16 byte-SubQ value exists among the record data stored in the buffer,...

Support: See, by way of example and not limitation, FIG. 4, items 305-2a and 305-3a, and paragraphs [0038] and [0039] of the present application. Paragraph [0038] states, in full:

> **[0038]** If there exists a SubQ value among the received data, the controller 207 determines whether a 16 byte-SubQ value exists among the received data in operation 305-2a.

Paragraph [0039] states, in full:

> **[0039]** If the 16 byte-SubQ value exists, the controller 207 identifies the number X of blocks received from the host in operation 305-3a.

...interpreting a SubQ value of each of the identified blocks,...

Support: See, by way of example and not limitation, FIG. 4, item 305-4a, and paragraphs [0040] and [0041] and Table 1 of the present application. Paragraph [0040] states, in full:

> **[0040]** Thereafter, the controller 207 interprets a SubQ value of each of the blocks received from the host in operation 305-4a. A SubQ value is shown in the following table.

Paragraph [0041] states, in full:

> **[0041]** When the SubQ value of each of the blocks is interpreted based upon Table 1 above, the controller 207 identifies an index value in the interpreted SubQ value of each of the blocks in operation 305-5a. The index value is comprised of 8 bits.

...and building the information on the optical recording medium using an index value in the interpreted SubQ value of each of the identified blocks; and,...

Support: See, by way of example and not limitation, FIG. 4, items 305-6a and 305-3a, and paragraphs [0042] of the present application. Paragraph [0042] states, in full:

> **[0042]** The controller 207 extracts TOC information from the 8-bit index value and stores the extracted TOC information in the TOC information builder 206. For example, if an index value is represented by A0, its corresponding TOC information is stored in an A0 management buffer (not shown) in the TOC information builder 206. Here, A0 represents a first track number of the optical disk 208. If an index value is represented by A1, its corresponding TOC information is stored in an A1 management buffer (not shown) in the TOC information builder 206. Here, A1 represents a last track number. If an index value is represented by A2, its corresponding TOC information is stored in an A2 management buffer (not shown) in the TOC information builder 206. Here, A2 represents a start address of a lead-out region of

the optical disk 208.

... sequentially recording the data in a raw recording mode on the lead-in region, a program region, and a lead-out region of the optical recording medium.

Support: See, by way of example and not limitation, FIG. 3, items 308 and 309, and paragraphs [0010] and [0057] of the present application. Paragraph [0010] states, in part:

> **[0010]** According to an aspect of the present invention, there is provided a method of recording record signals sequentially transmitted from a host on an optical recording medium. The method includes ... sequentially recording the signal-processed data on the lead-in region, a program region, and a lead-out region of the optical recording medium.

Paragraph [0057] states, in full:

> **[0057]** In operation 309, the controller 207 determines whether or not recording of the received data on the optical disk 208 from a lead-in region to a lead-out region is completed and keeps recording the received data on the optical disk 208 if the entire recording process is not over yet.

B. Independent claim 8 (claim text in italics, claim support is non-italicized)

8. (PREVIOUSLY PRESENTED) An apparatus for recording record signals sequentially transmitted from a host on an optical recording medium, the apparatus comprising:...

Support: See, by way of example and not limitation, the present application at FIG. 2 including HOST, RECORD DATA input to Buffer 200, and paragraphs [0015] and [0030].

Paragraph [0015] states, in part:

> **[0015]** According to another aspect of the present invention, there is provided an apparatus for recording record signals sequentially transmitted from a host on an optical recording medium.

Paragraph [0030] states, in full:

> **[0030]** A host processes a record command in operation 300. The host receives the record command from an application program and determines whether to record host data on the optical disk 208 or not. If predetermined data is being recorded on the optical disk 208, the controller 207 notifies the host of an error.

... a storing section which receives and stores record data sequentially transmitted from the host; and ...

Support: See, by way of example and not limitation, FIG. 2, item 200, FIG. 3, item 303, and paragraphs [0015] and [0033] of the present application. Paragraph [0015] states, in part:

> **[0015]** According to another aspect of the present invention, there is provided an apparatus for recording record signals sequentially transmitted from a host on an optical recording medium. The apparatus includes a storing section which receives and stores record data sequentially transmitted from the host...

Paragraph [0033] states, in full:

> **[0033]** Thereafter, in operation 303, the controller 207 controls and manages the data received from the host so that the received data can be stored in the buffer 200. The controller 207 controls the data received from the host so that only as much data as the storage capacity of the buffer 200 is received while checking the storage capacity of the buffer 200. Thus, the controller manages the buffer. The controller 207 increases a pointer value of the buffer 200 one by one whenever data is received from the host and determines whether to convert a current mode of the buffer 200 into a recording mode or not based on the pointer value of the buffer 200. If the buffer 200 does not have any space to store the data received from the host (i.e., the point value exceeds a threshold), the controller 207 converts the current mode of the buffer 200 into a recording mode.

... a control section which builds table of contents information using the record data to be recorded on a lead-in region of the optical recording medium among the record data stored in the storing section, and controls the record data stored in the storing section to be sequentially recorded in a raw recording mode on the lead-in region, a program region, and a lead-out region of the optical recording medium,...

Support: See, by way of example and not limitation, FIG.2, item 207, FIG. 3, item 305, and paragraphs [0007], [0015], [0033], [0035], and [0057] of the present application. Paragraph [0007] states, in full:

> **[0007]** The present invention provides a method of reducing recording time by building TOC information on data transmitted from a host and then recording data on an optical recording medium in a raw mode.

Paragraph [0015] states, in part:

> **[0015]** According to another aspect of the present invention, there

> is provided an apparatus for recording record signals sequentially transmitted from a host on an optical recording medium. The apparatus includes a storing section which receives and stores record data sequentially transmitted from the host, and a control section which builds information on the optical recording medium using the record data to be recorded on a lead-in region of the optical recording medium among the record data stored in the storing section and controls the record data stored in the storing section to be sequentially recorded on the lead-in region, a program region, and a lead-out region of the optical recording medium.

Paragraph [0033] states, in full:

> **[0033]** Thereafter, in operation 303, the controller 207 controls and manages the data received from the host so that the received data can be stored in the buffer 200. The controller 207 controls the data received from the host so that only as much data as the storage capacity of the buffer 200 is received while checking the storage capacity of the buffer 200. Thus, the controller manages the buffer. The controller 207 increases a pointer value of the buffer 200 one by one whenever data is received from the host and determines whether to convert a current mode of the buffer 200 into a recording mode or not based on the pointer value of the buffer 200. If the buffer 200 does not have any space to store the data received from the host (i.e., the point value exceeds a threshold), the controller 207 converts the current mode of the buffer 200 into a recording mode.

Paragraph [0035] states, in full:

> **[0035]** When the sector processor starts operating, TOC information is built using SubQ or Subcode values among the host data in operation 305. In the case of recording data on the optical disk 208 in a raw mode, lead-in information can be extracted from the host using two different methods.

Paragraph [0057] states, in full:

> **[0057]** In operation 309, the controller 207 determines whether or not recording of the received data on the optical disk 208 from a lead-in region to a lead-out region is completed and keeps recording the received data on the optical disk 208 if the entire recording process is not over yet.

... wherein the building table of contents information includes;

for a first block type of the record data, identifying a number of blocks if a 16 byte-SubQ value exists among the record data stored in the buffer,...

Support: See, by way of example and not limitation, FIG. 4, items 305-2a and 305-3a, and paragraphs [0038] and [0039] of the present application. Paragraph [0038] states, in full:

> **[0038]** If there exists a SubQ value among the received data, the controller 207 determines whether a 16 byte-SubQ value exists among the received data in operation 305-2a.

Paragraph [0039] states, in full:

> **[0039]** If the 16 byte-SubQ value exists, the controller 207 identifies the number X of blocks received from the host in operation 305-3a.

...interpreting a SubQ value of each of the identified blocks,...

Support: See, by way of example and not limitation, FIG. 4, item 305-4a, and paragraphs [0040] and [0041] and Table 1 of the present application. Par. [0040] states, in full:

> **[0040]** Thereafter, the controller 207 interprets a SubQ value of each of the blocks received from the host in operation 305-4a. A SubQ value is shown in the following table.

Paragraph [0041] states, in full:

> **[0041]** When the SubQ value of each of the blocks is interpreted based upon Table 1 above, the controller 207 identifies an index value in the interpreted SubQ value of each of the blocks in operation 305-5a. The index value is comprised of 8 bits.

... and building the information on the optical recording medium using an index value in the interpreted SubQ value of each of the identified blocks.

Support: See, by way of example and not limitation, FIG. 4, items 305-6a and 305-3a, and paragraphs [0042] of the present application. Paragraph [0042] states, in full:

> **[0042]** The controller 207 extracts TOC information from the 8-bit index value and stores the extracted TOC information in the TOC information builder 206. For example, if an index value is represented by A0, its corresponding TOC information is stored in an A0 management buffer (not shown) in the TOC information builder 206. Here, A0 represents a first track number of the optical disk 208. If an index value is represented by A1, its corresponding TOC information is stored in an A1 management buffer (not shown) in the TOC information builder 206. Here, A1 represents a last track number. If an index value is represented by A2, its corresponding TOC information is stored in an A2 management buffer (not shown) in the TOC information builder 206. Here, A2 represents a start address of a lead-out region of the optical disk 208.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. In the Final Office Action mailed May 30, 2008, the Examiner rejected claims 1, 2, 5-9, 12-16, 21 and 22 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Publication No. 2003/0156338 A1 by Kudo et al. ("Kudo").

A. At issue is whether the Examiner has established a prima facie case of obviousness under 35 U.S.C. §103(a) in the rejection of independent claims 1 and 8 over Kudo. More specifically, the issue is whether the Examiner has sufficiently demonstrated that Kudo teaches all the claim limitations and whether the Examiner has provided a sufficient rationale as to why the differences between the claimed embodiments and Kudo are obvious.

B. At issue is whether the Examiner has established a prima facie case of obviousness under 35 U.S.C. §103(a) in the rejection of claims 1 and 8. More specifically, the issue is whether the Examiner has sufficiently demonstrated a reason to modify Kudo.

VII. ARGUMENT

1. Claims 1, 2, 5-9, 12-16, 21 and 22 were finally rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Publication No. 2003/0156338 A1 by Kudo et al. ("Kudo").

All arguments are directed to the grounds of rejection. All citations to the "Final Office Action" refer to the Final Office Action mailed February 9, 2009, unless indicated otherwise.

Review of the Document Cited in the Office Action

The following document was relied upon in the rejection of claims 1, 2, 5-9, 12-16, 21 and 22 under 35 U.S.C. §103(a) in the Final Office Action:

U.S. Patent Publication No. 2003/0156338 A1 by Kudo

Kudo is directed to a dubbing apparatus capable of dubbing data managed per program like audio data such as a musical composition or a piece of music (paragraph [0001]). More specifically, the apparatus of Kudo is adapted to record or "dub" audio data read from a compact disc (CD) or a hard disc (HD) to a mini disc (MD), or to dub audio data recorded in a CD or MD to an HD (paragraphs [0071] - [0074]).

A. Rejection of claims 1 and 8 under 35 U.S.C. §103(a) – Kudo does not teach all the claim limitations

Appellant submits that the rejection in the Final Office of independent claims 1 and 8 (and respective dependent claims 2 5, 6, 7 and 9, & 12-16) as being unpatentable under 35 U.S.C. §103(a) over Kudo (see, for example, Final Office Action at pages 3 and 4) is in error for at least the following reasons.

Kudo fails to suggest or disclose every element of claims 1 and 8, and further, the Final Office Action fails to adequately explain why the differences between the claimed embodiments and Kudo would have been obvious to one skilled in the art. Claims 1 and 8 are argued as a group and thus stand or fall together.

By way of example and not limitation claim 1 recites at least the following:

> building table of contents information using the record data to be recorded in a lead-in region of the optical recording medium among the record data stored in the buffer...
>
> sequentially recording the data in a raw recording mode on the lead-in region, a program region, and a lead-out region of the

optical recording medium.

The Final Office Action asserts at page 3, item 11, that Kudo describes all of the above-recited features at paragraphs [0011], [0012], [0185], [0186], [0192], [0196], [0204]- [0214], [0300] and [0311]. Appellant respectfully disagrees with the Final Office Action assertion for at least the following reasons.

Kudo is directed to a system adapted to record or "dub" audio data read from a compact disc to a Mini-disc (MD) or a hard disc, or to dub audio data recorded in a hard disc to a MD, or to dub audio from an MD to a hard disc. Although Kudo appears to describe building TOC information based on a target medium in order to dub the audio data to each medium, Kudo does not describe "sequentially recording the data in a raw recording mode on the lead-in region, a program region, and a lead-out region" after building the TOC information *on the data in the buffer*, as in the claimed embodiment of the present application.

In fact, the Office Action fails to establish that Kudo is different than a conventional raw recording mode, described, by way of example and not limitation, at paragraphs [0004] – [0006] of the present application. In such a conventional raw recording mode, data transmitted from a host is sequentially recorded on a read-in region, a program region, and a read-out region of an optical recording medium. ***After*** completion of the recording of the data on the lead-out region, the lead-in region on which the data has already been recorded at a low rotation speed is sought using an optical pickup, and ***then*** the TOC information of the optical recording medium is built in the lead-in region, at which time the recording process is complete.

Similar to the conventional art approach described above, portions of Kudo describe the TOC being built in a lead-in area of a compact disc (paragraph [0124]) and *not* in a buffer. Further, with respect to a mini-disc (MD), Kudo also describes the TOC being built in a lead-in area of the MD. For example, Kudo describes both the P-TOC and the U-TOC being provided in the management area of the MD, which is located at one or both of the lead-in area and the innermost circumferential portion of the magneto-optical area of the disc (see, e.g., paragraphs [0161] - [0163]).

The Final Office Action appears to rely on paragraph [0311] of Kudo to describe "building table of contents information using the record data to be recorded in a lead-in region of the optical recording medium among the record data stored in the buffer," as recited in claim 1. Paragraph [0311] of Kudo states in full:

> Thus, the MD controller 11 generates the HD TOC based on the sub Q data and count in the encode counter, and holds it in the

> RAM 17 . This is the operation to be made in step S 305 in FIG. 19.

The above-cited portion of Kudo describes a process of dubbing audio data from an MD (mini disc) to an HD (hard drive) in which MD controller 11 generates HD TOC info from the MD TOC info and holds the generated data in RAM 17. Accordingly, paragraph [311] is different from the recited claim language because the generated HD TOC data held in RAM 17 is not "record data to be recorded in a lead-in region of the optical recording medium," but rather is data to be recorded in an HD.

Further, the Final Office Action fails to fails to adequately explain why the differences between the claimed embodiments and Kudo would have been obvious to one of skill in the art.

Accordingly, Appellant respectfully asserts that independent claim 1 patentably distinguish over Kudo, and should be allowable for at least the above-mentioned reasons. Since similar features are recited by independent claim 8, with potentially differing scope and breadth, the rejection of claim 8 should be also be withdrawn.

Further, claims 2, 5-7, 9, and 12-16 variously depend from independent claims 1 and 8, and should be allowable for at least the same reasons as claims 1 and 8, as well as for the additional features recited therein.

B. Rejection of claims 1 and 8 under 35 U.S.C. §103(a) – the Final Office Action fails to establish a prima facie case of obviousness over Kudo under 35 U.S.C. §103(a)

The Examiner failed to establish a prima facie case of obviousness under 35 U.S.C. §103(a) in the rejection of claims 1 and 8 because the Final Office Action fails to sufficiently demonstrate a reason to modify Kudo.

Independent claim 1 recites at least the following:

> for a first block type of the record data, identifying a number of blocks if a 16 byte-SubQ value exists among the record data stored in the buffer,
>
> interpreting a SubQ value of each of the identified blocks,
>
> and building the information on the optical recording medium using an index value in the interpreted SubQ value of each of the identified blocks;

The Final Office Action notes at page 3, item 11, that Kudo "teaches the Sub Q data being 96 bits, not 16 bits." However, the Examiner proposes to modify Kudo and asserts that:

> One of ordinary skills in the art would recognize that the size of

> the Sub Q data is a design choice that would vary depending on the specific application. In this case, the size of the Sub Q data depends on the size of data on the optical disk.

With respect to the taking of Official Notice in a Final rejection, MPEP §2144.03.A states:

> Official notice without documentary evidence to support an examiner's conclusion is permissible only in some circumstances. While "official notice" may be relied on, these circumstances should be rare when an application is under final rejection or action under 37 CFR 1.113. Official notice unsupported by documentary evidence should only be taken by the examiner where the facts asserted to be well-known, or to be common knowledge in the art are capable of instant and unquestionable demonstration as being well-known.

Appellant specifically points out the following errors in the Office Action:

First, the Office Action uses common knowledge as the principal reason for the rejection, but fails to demonstrate that the Officially Noticed fact is "capable of instant and unquestionable demonstration as being well-known" as required by M.P.E.P. § 2144.03A.

Second, there is no evidence supporting the assertion. *See* M.P.E.P. § 2144.03C ("If Applicant challenges a factual assertion as not properly officially noticed or not properly based upon common knowledge, the Examiner must support the finding with adequate evidence").

Third, it appears that the rejection is based, at least in part, on personal knowledge. 37 C.F.R. § 1.104(d)(2) requires such an assertion to be supported with an affidavit when called for by the Applicant. Appellant previously requested that the Examiner provide an affidavit supporting the assertion.

Fourth, Appellant asserts that one having ordinary skill in the art at the time of the invention would not have been motivated to modify Kudo to obtain the above-claimed features because Kudo shows no appreciation for the problem the presently claimed embodiments seek to solve. To the contrary, Kudo is directed towards overcoming a completely different problem. For example, Kudo notes that conventional dubbing methods have difficulty always determining a track breakpoint with high accuracy when dubbing audio data (paragraph [0014]). In response, in Kudo's dubbing method, second management information of a second medium that is being dubbed from first management information of a first medium will have accurate contents since it is based on the first management information (FAT) (paragraph [0374]). This is completely different in objective and effect than the problems of the conventional raw recording mode described at paragraphs [0003] – [0006] of the present application.

For each of the preceding reasons, Appellant asserts the Final Office Action fails to establish a prima facie case of obviousness under 35 U.S.C. §103(a).

VIII: CONCLUSION

Appellant submits that the Office fails to establish that independent claims 1 and 8 are obvious under 35 USC §103(a) over the cited document. Thus, reversal of the Examiner's rejections is respectfully requested.

The Commissioner is hereby authorized to charge any additional fees required in connection with the filing of this Appeal Brief to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date: October 8, 2009

By: _____

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IV: CLAIMS APPENDIX

1. (PREVIOUSLY PRESENTED) A method of recording record signals sequentially transmitted from a host on an optical recording medium, the method comprising:

receiving record data sequentially transmitted from the host and storing the received record data in a buffer if a predetermined environment for a data recording apparatus on the optical recording medium to record the received data is set;

building table of contents information using the record data to be recorded in a lead-in region of the optical recording medium among the record data stored in the buffer, wherein the building table of contents information includes;

for a first block type of the record data, identifying a number of blocks if a 16 byte-SubQ value exists among the record data stored in the buffer,

interpreting a SubQ value of each of the identified blocks,

and building the information on the optical recording medium using an index value in the interpreted SubQ value of each of the identified blocks; and

sequentially recording the data in a raw recording mode on the lead-in region, a program region, and a lead-out region of the optical recording medium.

2. (PREVIOUSLY PRESENTED) The method of claim 1, further comprising notifying the host, after signal processing, that recording of signal-processed data on the optical recording medium has been completed.

3. (CANCELLED)

4. (CANCELLED)

5. (PREVIOUSLY PRESENTED) The method of claim 1, wherein the index value comprises 8 bits.

6. (PREVIOUSLY PRESENTED) The method of claim 1, wherein the index value identifies one of a first track number of an optical disk, a last track number of an optical disk, and a start address of a lead-out region of an optical disk.

7. (PREVIOUSLY PRESENTED) The method of claim 1, wherein when a block type of the record data is a second block type, different than the first block type, the building

table of contents information comprises:

identifying the number of blocks if a 96 byte-Subcode value exists among the record data to be recorded in the lead-in region of the optical recording medium, stored in the buffer;

deducing a SubQ value of each of the identified blocks from the 96 byte-Subcode value;

interpreting a Subcode value of each of the identified blocks; and

building the information on the optical recording medium using an index value in the interpreted Subcode value of each of the identified blocks.

8. (PREVIOUSLY PRESENTED) An apparatus for recording record signals sequentially transmitted from a host on an optical recording medium, the apparatus comprising:

a storing section which receives and stores record data sequentially transmitted from the host; and

a control section which builds table of contents information using the record data to be recorded on a lead-in region of the optical recording medium among the record data stored in the storing section, and controls the record data stored in the storing section to be sequentially recorded in a raw recording mode on the lead-in region, a program region, and a lead-out region of the optical recording medium, wherein the building table of contents information includes;

for a first block type of the record data, identifying a number of blocks if a 16 byte-SubQ value exists among the record data stored in the buffer,

interpreting a SubQ value of each of the identified blocks,

and building the information on the optical recording medium using an index value in the interpreted SubQ value of each of the identified blocks.

9. (ORIGINAL) The apparatus of claim 8, wherein, when recording of the record data stored in the storing section onto the optical recording medium is completed, the control section transmits a record-end signal to the host.

10. (CANCELLED)

11. (CANCELLED)

12. (PREVIOUSLY PRESENTED) The apparatus of claim 8, wherein when a block type of the record data is a second block type, different than the first block type, the control section builds the table of contents information on the optical recording medium using a 96 byte-

Subcode value by identifying the number of blocks stored in the storage section, deducing a SubQ value of each of the identified blocks from the 96 byte-Subcode value, interpreting Subcode of each of the identified blocks, and using an index value in the interpreted Subcode of each of the identified blocks.

13. (PREVIOUSLY PRESENTED) The apparatus of claim 1, wherein the index value comprises 8 bits.

14. (PREVIOUSLY PRESENTED) The apparatus of claim 1, wherein the index value identifies one of a first track number of an optical disk, a last track number of an optical disk, and a start address of a lead-out region of an optical disk.

15. (ORIGINAL) The apparatus of claim 12, wherein the index value comprises 8 bits.

16. (PREVIOUSLY PRESENTED) The apparatus of claim 12, wherein the index value identifies one of a first track number of an optical disk, a last track number of an optical disk, and a start address of a lead-out region of an optical disk.

17. (CANCELLED)

18. (PREVIOUSLY PRESENTED) A recording apparatus, comprising:

a buffer section which stores data, has a storage capacity, and has a buffer mode including a recording mode;

a recording section which records data onto a storage medium in a recording mode which includes a raw recording mode;

a table of contents (TOC) building section which builds TOC information using one of a SubQ value and a Subcode from the received data;

a control section which manages the buffer section so that the storage capacity is not exceeded, monitors the storage capacity of the buffer section, and changes the buffer mode to recording when the storage capacity is met,

wherein, when the buffer mode is set to recording, the recording section is set to the raw recording mode, and

wherein the TOC building section builds the information on the optical recording medium

using a 16 byte-SubQ value which exists among the record data to be recorded in the lead-in region of the optical recording medium by identifying a number of blocks stored in the buffer section, interpreting a SubQ value of each of the identified blocks, and using an index value in the interpreted SubQ value of each of the identified blocks.

19. (PREVIOUSLY PRESENTED) A recording apparatus, comprising:

a buffer section which stores data, has a storage capacity, and has a buffer mode including a recording mode;

a recording section which records data onto a storage medium in a recording mode which includes a raw recording mode;

a table of contents (TOC) building section which builds TOC information using one of a SubQ value and a Subcode from the received data;

a control section which manages the buffer section so that the storage capacity is not exceeded, monitors the storage capacity of the buffer section, and changes the buffer mode to recording when the storage capacity is met,

wherein, when the buffer mode is set to recording, the recording section is set to the raw recording mode, and

wherein the TOC building section builds the information on the optical recording medium using a 96 byte-Subcode value by identifying the number of blocks stored in the buffer section, deducing a SubQ value of each of the identified blocks from the 96 byte-Subcode value, interpreting Subcode of each of the identified blocks, and using an index value in the interpreted Subcode of each of the identified blocks.

20. (PREVIOUSLY PRESENTED) A data recording method comprising:

processing a record command;

forming an appropriate recording power and setting an appropriate recording speed;

initializing an encoder;

receiving data from a host and managing a buffer;

setting an encoder mode and starting sector processing;

building information using one of a SubQ value and a Subcode value of the received data;

setting recording parameters and moving an optical pickup over a desired location of an optical medium;

recording the received data from a lead-in region to a lead-out region; and

notifying the host of completion of data recording,

wherein the TOC building section builds the information on the optical recording medium using either

a 16 byte-SubQ value which exists among the received data by identifying a number of blocks stored in the buffer, interpreting a SubQ value of each of the identified blocks, and using an index value in the interpreted SubQ value of each of the identified blocks, or

a 96 byte-Subcode value by identifying the number of blocks stored in the buffer, deducing a SubQ value of each of the identified blocks from the 96 byte-Subcode value, interpreting Subcode of each of the identified blocks, and using an index value in the interpreted Subcode of each of the identified blocks.

21. (PREVIOUSLY PRESENTED) A method of building table of contents information on an optical recording medium using record data to be recorded in a lead-in region of the optical recording medium, the method comprising:

for a first block type of the record data, identifying a number of blocks if a 16 byte-SubQ value exists among the record data;

interpreting a SubQ value of each of the identified blocks; and

building the table of contents information on the optical recording medium using an index value in the interpreted SubQ value of each of the identified blocks.

22. (PREVIOUSLY PRESENTED) The method of claim 21, wherein when a block type of the record data is a second block type, different than the first block type, the building table of contents information comprises:

identifying the number of blocks if a 96 byte-Subcode value exists among the record data to be recorded in the lead-in region of the optical recording medium, stored in the buffer;

deducing a SubQ value of each of the identified blocks from the 96 byte-Subcode value;

interpreting a Subcode value of each of the identified blocks; and

building the information on the optical recording medium using an index value in the interpreted Subcode value of each of the identified blocks.

X. EVIDENCE APPENDIX

None.

XI. RELATED PROCEEDINGS APPENDIX

None.